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June 11, 2012

Certified Mail No: 91 7199 9991 7031 1491 2688

Federal Minor NSR Permit Coordinator  
U.S. EPA, Region 8  
1595 Wynkoop Avenue, 8P-AR  
Denver, CO 80202-1129

Certified Mail No: 91 7199 9991 7031 1491 2671

Manuel Myore, Energy Minerals & Air Director  
P.O. Box 70  
Fort Duchesne, Utah 84026

**RE: Federal Minor NSR Registration – North Compressor Station**

Anadarko Uintah Midstream, LLC is submitting this registration in accordance with 40 CFR 49.160. The registration is for the installation of the following source at the facility referenced above:

Unit Name	Engine Type	Site HP	Make	Model	Serial #	Manufacture Date	Startup Date
NTH #3	Gas	1340	Caterpillar	3516TALE	4EK01116	10/31/1996	3/23/2012

Please feel free to call me at (720) 929-6867 or e-mail me at [Chad.Schlichtemeier@anadarko.com](mailto:Chad.Schlichtemeier@anadarko.com) if you should have any questions.

Sincerely,

Chad Schlichtemeier  
Sr. Staff EHS Representative

Enclosures

cc: Clayton Rimer



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
FEDERAL MINOR NEW SOURCE REVIEW PROGRAM IN INDIAN  
COUNTRY  
40 CFR 49.151**

**Registration for Existing Sources  
(FORM REG)**

**Please submit information to following two entities:**

Federal Minor NSR Permit Coordinator  
U.S. EPA, Region 8  
1595 Wynkoop Street, 8P-AR  
Denver, CO 80202-1129  
[R8airpermitting@epa.gov](mailto:R8airpermitting@epa.gov)

For more information, visit:  
<http://www.epa.gov/region08/air/permitting/tmnsr.html>

The Tribal Environmental Contact for the specific reservation:

If you need assistance in identifying the appropriate Tribal Environmental Contact and address, please contact: [R8airpermitting@epa.gov](mailto:R8airpermitting@epa.gov)

**A. GENERAL SOURCE INFORMATION**

<b>1. Company Name</b> Anadarko Uintah Midstream, LLC		<b>2. Source Name</b> North Compressor Station	
<b>3. Type of Operation</b> Natural Gas Compression		<b>4. Portable Source?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <b>5. Temporary Source?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<b>6. NAICS Code</b> 211111		<b>7. SIC Code</b> 1311	
<b>8. Physical Address (home base for portable sources)</b> Remote Location near Ouray, Utah			
<b>9. Reservation*</b> Uinta and Ouray	<b>10. County*</b> Uintah	<b>11a. Latitude*</b> 40 02' 08"	<b>11b. Longitude*</b> -109 34' 10"
<b>12a. Quarter-Quarter Section*</b> NE-SE	<b>12b. Section*</b> 17	<b>12c. Township*</b> 9S	<b>12d. Range*</b> 21E

\* Provide all locations of operation for portable sources

**B. CONTACT INFORMATION**

<b>1. Owner Name</b> Anadarko Uintah Midstream, LLC		<b>Title</b>
Mailing Address PO BOX173779, Denver, CO 80217		
Email Address		
Telephone Number	Facsimile Number	
<b>2. Operator Name</b> (if different from owner) Same As Owner		<b>Title</b>
Mailing Address		
Email Address		
Telephone Number	Facsimile Number	
<b>3. Source Contact</b> Clayton Rimer		<b>Title</b> Senior Maintenance Foreman
Mailing Address 1368 S 1200 E, Vernal, UT 84078		
Email Address Clayton.Rimer@anadarko.com		
Telephone Number 435-781-7033	Facsimile Number	
<b>4. Compliance Contact</b> Chad Schlichtemeier	<b>Title</b> Senior Staff EHS Representative	
Mailing Address PO BOX 173779, Denver, CO 80217		
Email Address Chad.Schlichtemeier@anadarko.com		
Telephone Number 720-929-6867	Facsimile Number 720-929-7105	

## C. ATTACHMENTS

### Include all of the following information as attachments to this form

Narrative description of the operations

Identification and description of all emission units and air pollution generating activities (with the exception of the exempt emissions units and activities listed in §49.153(c))

Identification and description of any existing air pollution control equipment and compliance monitoring devices or activities

Type and amount of each fuel used

Type raw materials used

Production Rates

Operating Schedules

Any existing limitations on source operations affecting emissions or any work practice standards, where applicable, for all regulated NSR pollutants at your source.

Total allowable (potential to emit if there are no legally and practically enforceable restrictions) emissions from the air pollution source for the following air pollutants: particulate matter,  $PM_{10}$ ,  $PM_{2.5}$ , sulfur oxides ( $SO_x$ ), nitrogen oxides ( $NO_x$ ), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, fluorides (gaseous and particulate), sulfuric acid mist ( $H_2SO_4$ ), hydrogen sulfide ( $H_2S$ ), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

Estimates of the total actual emissions from the air pollution source for the following air pollutants: particulate matter,  $PM_{10}$ ,  $PM_{2.5}$ , sulfur oxides ( $SO_x$ ), nitrogen oxides ( $NO_x$ ), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, fluorides (gaseous and particulate), sulfuric acid mist ( $H_2SO_4$ ), hydrogen sulfide ( $H_2S$ ), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

Other

The public reporting and recordkeeping burden for this collection of information is estimated to average 6 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

## D. TABLE OF ESTIMATED EMISSIONS

The following estimates of the total emissions in tons/year for all pollutants contained in your worksheet stated above should be provided.

Pollutant	Total Actual Emissions (tpy)	Total Allowable or Potential Emissions (TPY)	
PM	1.30	1.30	PM - Particulate Matter PM <sub>10</sub> - Particulate Matter less than 10 microns in size PM <sub>2.5</sub> - Particulate Matter less than 2.5 microns in size SO <sub>x</sub> - Sulfur Oxides NO <sub>x</sub> - Nitrogen Oxides CO - Carbon Monoxide VOC - Volatile Organic Compound Pb - Lead and lead compounds Fluorides - Gaseous and particulates H <sub>2</sub> SO <sub>4</sub> - Sulfuric Acid Mist H <sub>2</sub> S - Hydrogen Sulfide TRS - Total Reduced Sulfur RSC - Reduced Sulfur Compounds
PM <sub>10</sub>	1.30	1.30	
PM <sub>2.5</sub>	1.30	1.30	
SO <sub>x</sub>	0.08	0.08	
NO <sub>x</sub>	58.17	58.17	
CO	4.93	4.93	
VOC	12.57	12.57	
Pb	N/A	N/A	
Fluorides	N/A	N/A	
H <sub>2</sub> SO <sub>4</sub>	N/A	N/A	
H <sub>2</sub> S	N/A	N/A	
TRS	N/A	N/A	
RSC	N/A	N/A	

Emissions calculations must include fugitive emissions if the source is one the following listed sources, pursuant to CAA Section 302(j):

- (a) Coal cleaning plants (with thermal dryers);
- (b) Kraft pulp mills;
- (c) Portland cement plants;
- (d) Primary zinc smelters;
- (e) Iron and steel mills;
- (f) Primary aluminum ore reduction plants;
- (g) Primary copper smelters;
- (h) Municipal incinerators capable of charging more than 250 tons of refuse per day;
- (i) Hydrofluoric, sulfuric, or nitric acid plants;
- (j) Petroleum refineries;
- (k) Lime plants;
- (l) Phosphate rock processing plants;
- (m) Coke oven batteries;
- (n) Sulfur recovery plants;
- (o) Carbon black plants (furnace process);
- (p) Primary lead smelters;
- (q) Fuel conversion plants;
- (r) Sintering plants;
- (s) Secondary metal production plants;
- (t) Chemical process plants
- (u) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
- (v) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- (w) Taconite ore processing plants;
- (x) Glass fiber processing plants;
- (y) Charcoal production plants;
- (z) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, and
- (aa) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

## Instructions

Please answer all questions. If the item does not apply to the source and its operations write "n/a". If the answer is not known write "unknown".

### A. General Source Information

1. Company Name: Provide the complete company name. For corporations, include divisions or subsidiary name, if any.
2. Source Name: Provide the source name. Please note that a source is a site, place, location, etc... that may contain one or more air pollution emitting units.
3. Type of Operation: Indicate the generally accepted name for the operation (i.e., asphalt plant, gas station, dry cleaner, sand & gravel mining, oil and gas well site, tank battery, etc.).
4. Portable Source: Does the source operate in more than one location? Some examples of portable sources include asphalt batch plants and concrete batch plants.
5. Temporary Source: A temporary source, in general, would have emissions that are expected last less than 2 years. Do you expect to cease operations within the next 2 years?
6. NAICS Code: North American Industry Classification System. The NAICS Code for your source can be found at the following link → North American Industry Classification System (<http://www.census.gov/epcd/naics/nsic2ndx.htm#S1>).
7. SIC Code: Standard Industrial Classification Code. Although the new North American Industry Classification System (NAICS) has replaced the SIC codes, much of the Clean Air Act permitting processes continue to use these codes. The SIC Code for your source can be found at the following link → Standard Industrial Classification Code ([http://www.osha.gov/pls/imis/sic\\_manual.html](http://www.osha.gov/pls/imis/sic_manual.html)).
8. Physical Address: Provide the actual address of where the source is operating, not the mailing address. Include the State and the ZIP Code.
9. Reservation: Provide the name of the Indian reservation within which the source is operating.
10. County: Provide the County within which the source is operating.
- 11a & 11b. Latitude & Longitude: These are GPS (global positioning system) coordinates. This information can be provided in decimal format or degree-minute-second format.
- 12a – 12d. Section-Township-Range: Please provide these coordinates in Quarter-Quarter Section/Section/Township/Range. (e.g., SW ¼, NE ¼ /S36/T10N/R21E).

## B. Contact Information

Please provide the information requested in full.

1. Owners: List the full name (last, middle initial, first) of all owners of the source.
2. Operator: Provide the name of the operator of the source if it is different from the owner(s).
3. Source Contact: The source contact must be the local contact authorized to receive requests for data and information.
4. Compliance Contact: The compliance contact must be the local contact responsible for the source's compliance with this rule. If this is the same as the Source Contact please note this on the form.

## C. Attachments

The information requested in the attachments will enable EPA to understand the type of source being registered and the nature and extent of the air pollutants being emitted.

## D. Total Emissions

1. Allowable Emissions (See also, Potential to Emit): Emissions rate of a source calculated using the maximum rated capacity of the source (unless the source is subject to practically and legally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:
  - a) Any applicable standards as set forth in 40 CFR parts 60 and 61;
  - b) Any applicable Tribal or Federal Implementation Plan emissions limitation, including those with a future compliance date; or
  - c) Any emissions rate specified as a federally enforceable permit condition, including those with a future compliance date.
2. Potential to Emit: The maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is enforceable as a practical matter. See Allowable Emissions.
3. Actual Emissions: Estimates of actual emissions must take into account equipment, operating conditions, and air pollution control measures. For a source that operated during the entire calendar year preceding the initial registration submittal, the reported actual emissions typically should be the annual emissions for the preceding calendar year, calculated using the actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year. However, if you believe that the actual emissions in the preceding calendar year are not representative of the emissions that your source

will actually emit in coming years, you may submit an estimate of projected actual emissions along with the actual emissions from the preceding calendar year and the rationale for the projected actual emissions. For a source that has not operated for an entire year, the actual emissions are the estimated annual emissions for the current calendar year.

4. The emission estimates can be based upon actual test data or, in the absence of such data, upon procedures acceptable to the Reviewing Authority. The following procedures are generally acceptable for estimating emissions from air pollution sources:
  - (i) Source-specific emission tests;
  - (ii) Mass balance calculations;
  - (iii) Published, verifiable emission factors that are applicable to the source. (i.e., manufacturer specifications).
  - (iv) Other engineering calculations; or
  - (v) Other procedures to estimate emissions specifically approved by the Reviewing Authority.
5. Guidance for estimating emissions can be found at <http://www.epa.gov/ttn/chief/efpac/index.html>.



## DESCRIPTION OF OPERATIONS

The North Compressor Station is an existing natural gas compression facility located within the Uintah and Ouray reservation in Northeastern Utah.

Natural gas from the surrounding field is routed to the compressor station via the gas collection system. Natural gas enters the compressor station through the inlet slug catcher where liquids are gravitationally separated from the stream. Condensate recovered is sent to the blowcase system and put back into the discharge line leaving the station. Gas goes through two stages of compression before discharge from the facility. Water is stored in the atmospheric storage tanks along with condensate collected. Liquids are held in storage tanks onsite until loaded into trucks for transport to sale..

## Operating Schedule

The facility operates 8,760 hours per year.

## Applicable Standards

This facility is subject to the area source requirements under 40CFR Part 63, Subpart ZZZZ. All engines were manufactured prior to the effective date under 40CFR Part 60, Subpart JJJJ and, therefore, the engines are not subject to the requirements of this subpart.

Unit Name	Engine Type	Site HP	Make	Model	Serial #	Manufacture Date	Startup Date	JJJJ	ZZZZ
NTH #2	Gas	1340	Caterpillar	3516TALE-AFR	4EK04208	9/28/2004	3/4/2005	No	Area
NTH #1	Gas	1340	Caterpillar	3516TALE-AFR	3RC01189	5/3/1996	pre-lodging	No	Area
NTH #3	Gas	1340	Caterpillar	3516TALE	4EK01116	10/31/1996	3/23/2012	No	Area

## Emission Sources

Current emitting units onsite include:

- NTH 1, NTH 2, NTH 3 – Natural gas fired Caterpillar G3516TALE compressor driver engine;
- TNK 1, TNK 2, TNK 3 – 400 barrel (bbl, 16,800 gallon) capacity condensate/produced water storage tanks; and
- Truck loading from condensate tanks.

All equipment except for the NTH3 compressor engine were in operation prior to August 31, 2011. The NTH 3 compressor engine was installed and began operating on March 23, 2012.

## Control Equipment

Lean-burn technology controls emissions of nitrogen oxides (NOx) from the Caterpillar G3516 TALE engines. Additionally, each of the Caterpillar G3516 TALE engines is equipped with oxidation catalyst for control of carbon monoxide (CO), volatile organic compounds (VOC), and formaldehyde (CH<sub>2</sub>O).

## Federally Enforceable Requirements

Kerr-McGee Consent Decree signed in 2007 required the existing engines at the North Compressor Station to be equipped with oxidation catalyst having a 93% destruction efficiency for CO. The Consent Decree also requires the new lean-burn engine at the North Compressor Station to be equipped with an oxidation catalyst meeting the same requirements. Therefore, the CO control requirements are federally enforceable.

The oxidation catalyst also controls VOCs and formaldehyde. Control requirements for these pollutants are enforceable as a practical matter.

Emission calculations are presented in tables in the following pages. The addition of the third compressor increases the capacity of the site. Estimated actual emissions based on calendar year 2011 production will not appropriately reflect the current capacity of the site. Therefore, for the purposes of this application, actual emissions are assumed equal to requested allowable emissions.

North Compressor Station Engine Emission Calculations						
Basis						
Unit(s)	NTH1 - NTH3					
Type	Caterpillar G3516 TALE					
Emission Control	Oxidation Catalyst					
Horsepower	1,340 hp					
Hours of Operation	8,760 hrs					
Fuel Usage	7,405 BTU/hp-hr					
Heat Input	9.9 MMBTU/hr					
Fuel Heat Content (HHV)	1,120 BTU/SCF					
Annual Fuel Consumption	77,610 Mscf					
Fuel Use Rate	8,860 SCF/hr					
Emissions Estimate (per engine)						
Pollutant	Potential to Emit					Reduction Efficiency
	Emissions Factor		Emissions			
	(lb/MMBtu)	(g/hp-hr)	(lb/hr)	(lb/yr)	(tpy)	
NO <sub>x</sub> <sup>a</sup>	0.4462	1.500	4.43	—	19.39	0%
CO <sup>a</sup>	0.0378	0.127	0.37	—	1.64	93%
VOC <sup>a</sup>	0.0690	0.232	0.68	—	3.00	30%
Formaldehyde <sup>a</sup>	0.0178	0.060	0.18	1551	0.78	76%
SO <sub>2</sub> <sup>b</sup>	0.0006	0.002	0.01	—	0.03	0%
TSP <sup>b</sup>	0.0100	0.034	0.10	—	0.43	0%
PM <sub>10</sub> <sup>b</sup>	0.0100	0.034	0.10	—	0.43	0%
PM <sub>2.5</sub> <sup>b</sup>	0.0100	0.034	0.10	—	0.43	0%

<sup>a</sup> Manufacturer's Specifications for emission factors and control efficiencies

<sup>b</sup> AP-42 Table 3.2-2 Uncontrolled Emission Factors for 4-Stroke Lean Burn Engines

## North Compressor Station Condensate Emission Calculations

### Basis

Requested Production    8.2    bbl/day       126,000    gal/yr

### Condensate Storage Emission Estimates

Storage Tank Emission Factor:            0.4    TPY VOC/bbl/day

**Storage Tank VOC Emissions    3.29    TPY Requested**

Emission factor from a Promax simulation run based on a condensate sample from the White River Compressor Station

### Condensate Loading Emission Estimates

#### Truck Loading Equation:

$$L = 12.46 \frac{\text{SPM}}{T} \text{ (from AP-42, section 5.2, equation 1)}$$

#### Calculation Variables:

L loading loss (lbs/1,000 gal)

S saturation factor

1.45    (from AP-42, Table 5.2-1, submerged loading)

P true vapor pressure of liquid loaded at bulk liquid temperature (psia)

2.60    (estimated from AP-42, Table 7.1-2)

M molecular weight of vapor (lb/lb-mole)

50.00    (from AP-42, Table 7.1-2)

T temperature of liquid loaded (°R)

514.67    (55 °F)

$$L = 4.56 \text{ lbs/1,000 gal loaded}$$

**Truck Loading VOC Emissions    0.29    TPY Requested**

